CPD 5178
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Strathcona
Design Brief

Adopted City Council February 17,1976
Amended by City Council January 12,1978
Amended by City Council July 28, 1981
Amended by City Council December 6, 1982

OFFICE CONSOLIDATION
MAY 1985

PREFACE

This office consolidation includes the following amendments: Number 1, February 17, 1976;
Number 2, January 12, 1978;
Number 3, July 28, 1981;
Number 4, December 6, 1982.

These amendments have been incorporated into this office consolidation for ease of reference only. The original design brief and all amendments thereto are available from the City Clerk and should be consulted when interpreting and applying this plan.

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STRATHCONA DESIGN BRIEF OFFICE CONSOLIDATION

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PART 1 - BACKGROUND AND SUPPORTING INFORMATION

1. INTRODUCTION

1.1 WHAT IS A DESIGN BRIEF?

The Calgary Plan serves as the fundamental guide for planning in the City. One of its objectives is to set out, in broad terms, principles for the development of lands beyond the fringe of the existing built-up portions of the City. However, to actually bring about the desired end results, "design briefs" are considered one of the basic implementation tools.

The explicit purpose of a design brief is stated in the Calgary Plan as follows:

> "The general public has a fundamental right to expect that the development of any area be based upon an accepted plan prepared with due regard to its environmental impact and that implementation will proceed within the framework of the plan.
>
> All too often in the past, plans have been prepared without an assessment being made of their feasibility and impact on the environment. Also, approved plans have had significant changes made at a late stage in the implementation due to lack of consultation with people affected. In either case, the confidence of the public in the planning process has been severely shaken..."

Design Brief Objectives

> "To establish the basic framework upon which development will take place and identify the City's requirements for the area, together with cost implications and alternatives, in order that consistent and co-ordinted development may take place in accordance with the requirements of the General Plan. This will provide individual developers with a clear indication of public requirements before proceeding in association with the Planning Department with the preparation of more detailed proposals."

However, the Calgary Plan also states:

> "The value of any proposal is dependent upon the feasibility of implementation and acceptance by the majority of people involved. This is intimately linked with not only the quality of information upon which policy decisions are made, but upon the degree of public participation and the quality of communication between the many groups involved in a plan preparation. There is a need to involve the public in the decision making process and provide a means for expression of divergent views on the alternative developments available."

The Plan is therefore explicit about the purpose of a design brief and the procedure to be followed to satisfactorily complete a design brief for Council's consideration.

1.2 RELATIONSHIP BETWEEN STRATHCONA POLICY REPORT AND DESIGN BRIEF

In the 1973 Calgary Plan, Strathcona is shown as being "Under Policy Review" and to date, no policy has been set by Council for this area. Concurrent with the preparation of this Design Brief, a separate document entitled the Strathcona Policy Report is being prepared and will be considered by City Council prior to the consideration of the Design Brief.

As presently drafted, the Strathcona Policy Report presents five alternative development patterns:

1. The Strathcona area to remain as a rural area with residential development restricted to one dwelling unit per three acres.

2. The Strathcona area be developed for residential purposes to a maximum of 58,000 persons.

3. Develop that part of Strathcona lying north of Richmond Road for residential purposes to a maximum of 50,000 persons and allocate the area south of Richmond Road as an employment area.

4. Develop that part of Strathcona lying between Bow Trail and Richmond Road for residential purposes at 22 persons per gross acre and designate the area north of Bow Trail as a Special Study Area for residential purposes and the area south of Richmond Road as a Special Study Area for an employment centre.

5. Develop Strathcona for residential purposes to a maximum of 40,000 persons by either:

   a. Developing the whole of Strathcona at a density of 15 persons per gross acre, or

   b. Developing that part of Strathcona lying north of Richmond Road at a density of between 17 and 18 persons per acre and allocating the area south of Richmond Road as an employment centre.

At Council's request, a detailed road study called the South West Roads Study was carried out to determine the implications of these alternative development patterns on the communities to the east of Sarcee Trail.

This report is now completed and will be presented together with a revised version of the Strathcona Policy Report to City Council in February, 1976.

Normally, a Design Brief would be prepared following adoption of one of these policies by City Council. However, on October 27, 1975, City Council passed the following motion:

> "That the developers, landowners and house-builders of the Strathcona area prepare a Design Brief at their own expense using the City's criteria of 22 persons per acre, this Council will be prepared to consider it, together with the Planning Department's comments thereon when the Strathcona Policy Report and Transportation Report are brought forward for Public Hearing in February, 1976."

Subsequently, City Council approved a proposal from the Civic Administration that they coordinate the preparation of this Design Brief using as much consultant help as required but paid for by the developers and landowners.

THIS STRATHCONA DESIGN BRIEF HAS BEEN PREPARED ON THE ASSUMPTION THAT A POLICY WILL BE ADOPTED FOR THE STRATHCONA AREA, SIMILAR TO ALTERNATIVE THREE, AS PRESENTLY DRAFTED IN THE STRATHCONA POLICY REPORT. SHOULD THIS ALTERNATIVE NOT BE ADOPTED, CITY COUNCIL SHOULD NOT CONSIDER THIS DESIGN BRIEF.

At its meeting of February 16, 1976, Calgary City Council adopted the following policy for Strathcona:

> "Develop that part of Strathcona lying north of the existing Richmond Road alignment, for residential purposes to a maximum of 50,000 persons at 22 persons per acre, and allocate the area south of the existing Richmond Road alignment as a potential employment area."

1.3 LOCATION

Strathcona is a large expanse of land situated on the western edge of the city of Calgary. It was annexed to the City from the Municipal District of Rockyview in 1956.

It is an elevated area of approximately 2,600 acres of land lying between the Bow and Elbow Rivers. Its boundaries are the existing Sarcee Trail on the north and east, 50th Avenue right-of-way on the south and 69th Street (the City Limits) on the west.

Situated about five miles west of the Downtown, Strathcona is linked to it and other older parts of Calgary via Bow Trail, 17th Avenue S.W. and Richmond Road. It is also linked to other parts of the city via Glenmore Trail and Sarcee Trail which in turn gives it access to Crowchild Trail and 16th Avenue North (the Trans Canada Highway). These routes afford the area good access, especially to the central, south and southeast parts of the city.

Relationship to Adjacent Area to the West

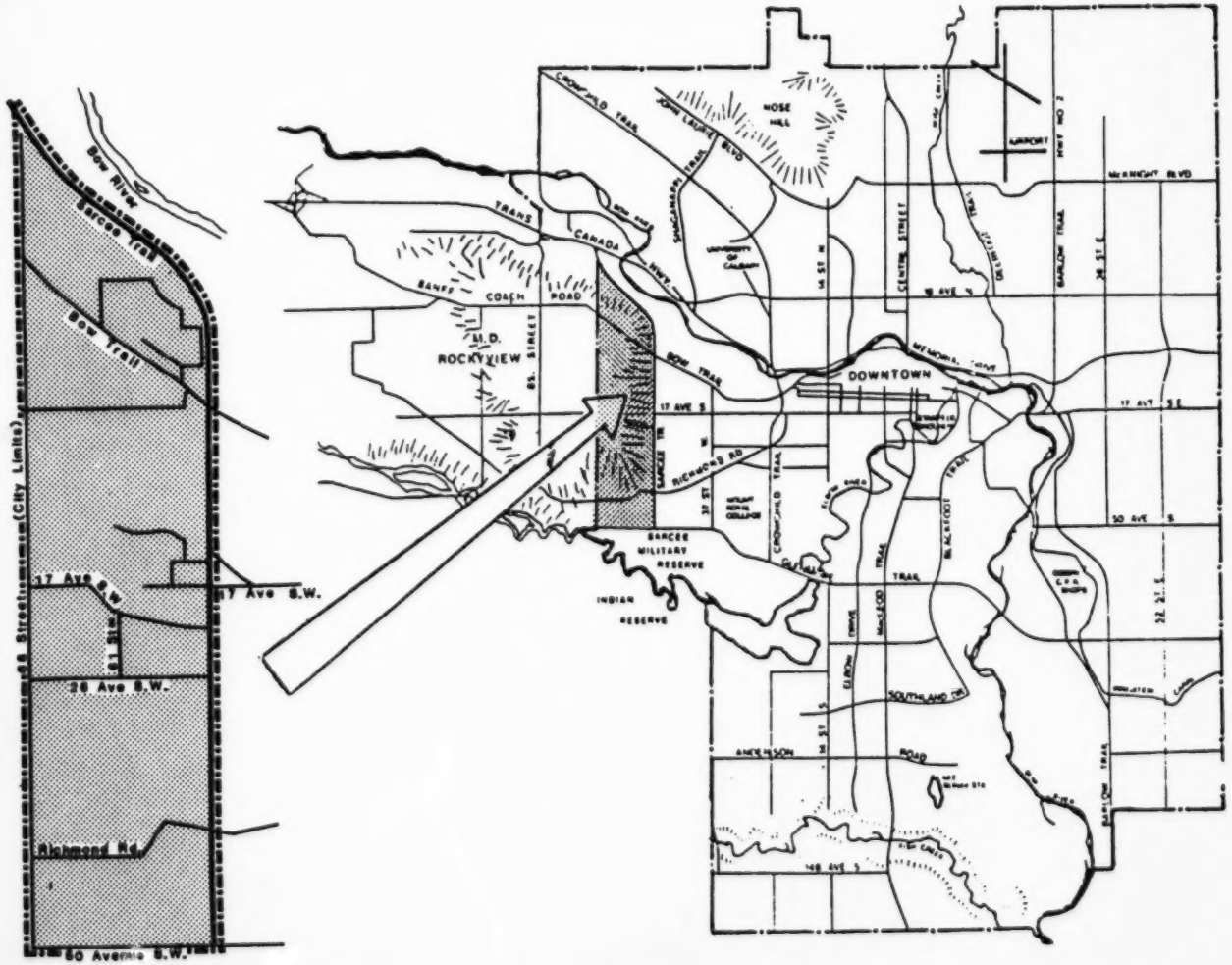
The Strathcona area is the eastern edge of a plateau which stretches west for a distance of about 4 - 5 miles.

There is no ideal boundary which could be used without incorporating very large tracts of land, which lie outside the city's jurisdiction. 69th Street West is considered a reasonable boundary for the following reasons:

1. There is a noticeable difference in the form of existing development in the area west of 69th Street south of Bow Trail from that in the City Limits. The area to the west has already been subdivided into numerous country residential parcels whereas the area within the city is still basically in large units of ownership.

2. 69th Street is the existing City Limits and is the legal boundary which must be adhered to by the City.

However, in the preparation of the Design Brief, care has been taken to ensure that any development permitted does not preclude the possibility of development in the general area to the west at some point in the future. Particular attention has been paid to existing and proposed transportation facilities in this area to reduce the impact of urban development in Strathcona on the area to the west.



STRATHCONA DESIGN BRIEF — **MAP 1**

LOCATION

MARCH 1978

THE CITY OF CALGARY
PLANNING & BUILDING DEPARTMENT

Relationship to Adjacent Area to the East, North and South

Strathcona is bounded on the east by residential development. Residential development in Strathcona will be an extension of the area lying between Sarcee and Crowchild Trails and will rely on it particularly in the early stages of development for many services. In the long term, both areas should become fully integrated with residents able to use regional facilities provided in either area. The design of Strathcona is such as to encourage interaction between these areas. A detailed road study has been carried out to determine the implications for the area to the east of developing Strathcona and the design takes into account the findings of that study.

Bowness lies to the north of Strathcona, but is separated from it by the Bow River and Trans Canada Highway. The park system of the Bow River forms a natural buffer between these two areas.

The area lying to the south of Strathcona forms part of the Sarcee Military Camp. The Elbow River also flows through this area and the land to the south of it, although at present used for military purposes does form part of the Sarcee Indian Reserve. This Design Brief has been prepared on the basis that these uses will continue, but the road configuration has been designed so as to reduce the impact of development on the Elbow River as much as possible.

1.4 HISTORY

The Strathcona area has a long and interesting history tied into the growth of Calgary.

In 1905, at the time the Province of Alberta was created, it was decided that the University of Alberta would be located in Calgary and the Provincial Legislature would be situated in Edmonton. The area selected as the site for the University is the area now known as Patterson Heights, which was then called Varsity Heights. However, when both the University and the Legislature were placed in Edmonton, the twenty-five foot subdivided lots, which had been set up in Varsity Heights to allow for a major development, reverted to farmland.

The house at present occupied by Mr. and Mrs. Stu Hart, was originally built and owned by the Crandel family. The Crandel's owned the first brick factory in Alberta which was located in the Edworthy ravine area near the Brickburn railroad station. During the Depression, the house was taken over by the City for non-payment of taxes and sold to Mr. Patterson, who lived in it for many years and after whom the area is now named.

The Canadian Armed Forces used part of the Strathcona area for training purposes in the First World War and a set of numbers, indicated in stone on the hill just north of Richmond Road, are understood to be the numbers of Canadian Regiments which trained in this area before going to Europe to fight in the Great War.

The Banff Coach Road, now called Bow Trail for that part of its length within the city limits, was originally named for Banff Tote Road and was built to access the construction of the CPR and to avoid traversing Cochrane Hill. The name Coach Road is an adaptation of the original term Tote Road.

3. UTILITIES

Strathcona can be provided with the necessary utilities for urban development by the extension of existing mains and the construction of new ones. There are a number of problem areas in the north and south and these are discussed in the relevant sections below.

3.1 SANITARY SEWER

A syphon under the Bow River exists at the present time and this will enable a major trunk to be constructed adjacent to Edworthy Draw to the intersection of Bow Trail and Sarcee Trail early in 1976. This trunk can then be extended south along the Sarcee Trail right-of-way to about 35th Avenue when it will swing westward into the Strathcona area. This trunk will serve the majority of the land in Strathcona and the timing of construction for it, as proposed in the present capital budget, is indicated on the plan.

The area to the south of 35th Avenue, which cannot be drained into the sanitary sewer along Sarcee Trail, presents a special problem. This area, together with some land in the Glamorgan/Glenbrook area, could drain into a sewer extended westwards from 24th Street across Military Reserve. The cost of extending this sewer is estimated at 1 1/2 million dollars. It is not considered economical to install both the 53rd Street trunk and the southwest trunk at the same time; therefore, it is recommended that the 53rd Street trunk (northern trunk), which services the greater area and has the lowest estimated cost, be installed in the first stages of development. This implies that development will start in the north end of the area and progress to the south. As development approaches the southern section of the design area, then the southwest trunk could be extended to service this area.

Present City Budget estimates for constructing the Sarcee Sanitary Trunk (53rd Street trunk) to service the Strathcona area are as follows:

YEAR	ESTIMATED COST
1977	$ 690,000.00
1978	$ 480,000.00
1979	$ 180,000.00
	$1,350,000.00

3.2 STORM SEWER

The majority of Strathcona can be serviced by storm sewers existing in Sarcee Trail. However, a portion of the area north of Bow Trail, which presents problems from the point of view of potential instability and sanitary servicing, presents the same type of problems with storm sewers and is subject to the requirements for similar engineering studies necessary to determine its suitability for development.

An area in the south western part of Strathcona, south of 17th Avenue, cannot be drained by the trunks in Sarcee Trail and would require a separate trunk drained into the Elbow River and Glenmore Reservoir. The Alberta Department of Environment would have to approve the construction and standards for a new outfall for this trunk and, after that, the City would make a decision as to the timing of its construction. No detailed design or budget estimates have been prepared, to date, for this trunk.

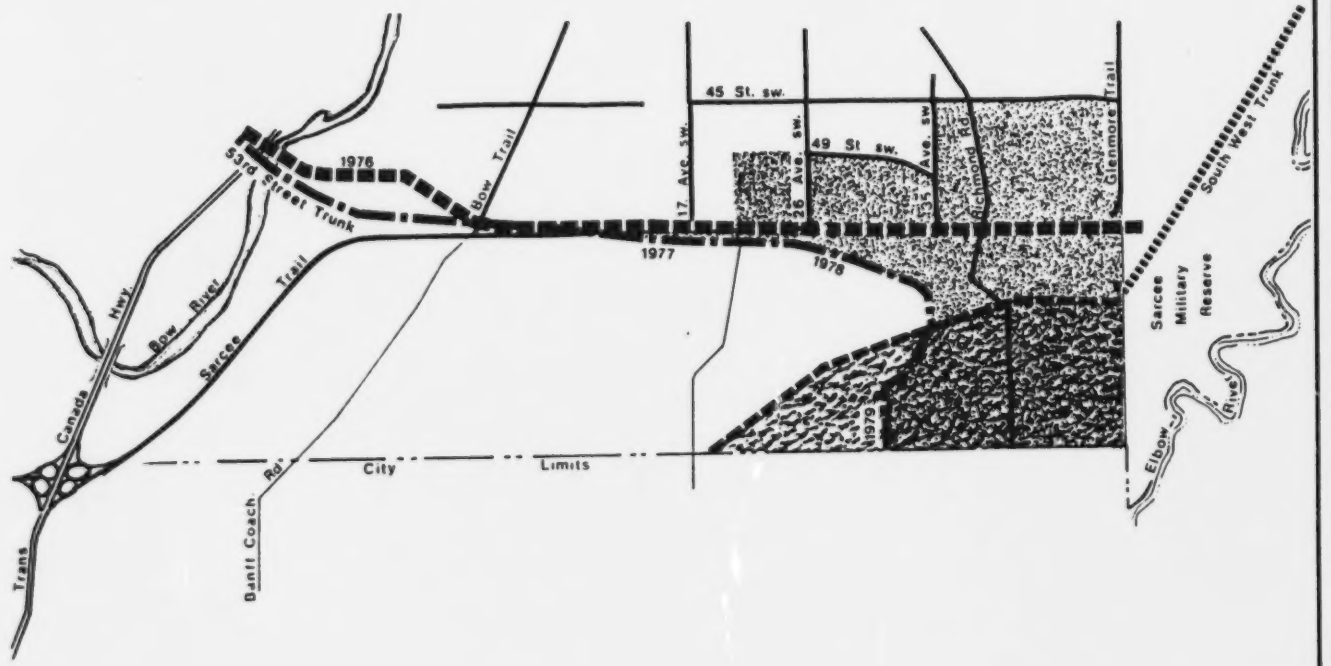
1.5 EXISTING SITUATION

Existing Land Use Classification

Under the existing Development Control By-law, the majority of Strathcona is designated R-C, which is a Country Residential designation with a minimum lot size of 3 acres. The northwest corner of the area is designated D.C. (Direct Control).

Other land use classifications, as indicated on Map 2, relate to existing non-residential uses such as the Television Station and the R.C.A.F. Association Club.

Council has recently approved the reclassification of three sites to D.C. One site, located at 14th Avenue and 56th Street S.W., was redesignated to D.C. for a Moslem Community Centre. The second site, located south of Bow Trail just west of Sarcee Trail, was reclassified as D.C. to permit the erection of a dwelling unit and photographer's studio. The third site, the gravel workings, was reclassified D.C. to enable the City to continue the gravel workings.



STRATHCONA DESIGN BRIEF — MAP 9

STORM AND SANITARY SEWER

LEGEND

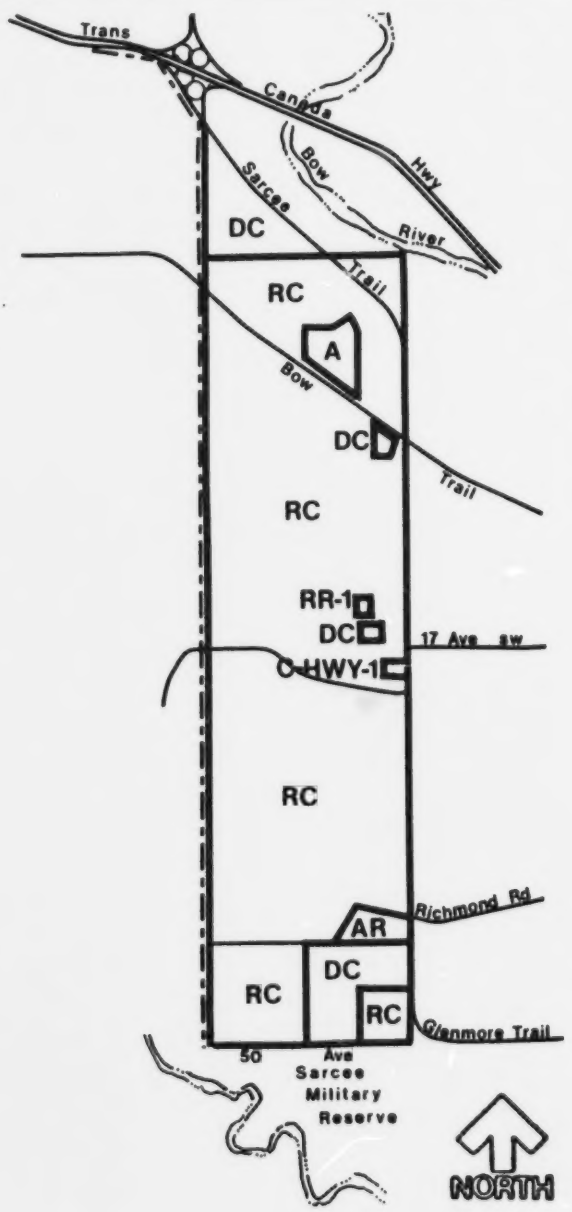
- Sanitary Sewer
- Storm Duct (Existing)
- Storm Sewer Drainage Boundary
- Area Servicing to South West Sanitary Trunk Line
- Area requiring new Storm Trunk and outfall to Elbow River

Timing – City Capital Works Budget

MARCH 1978

THE CITY OF CALGARY PLANNING & BUILDING DEPARTMENT

0 1/2 1 mile



STRATHCONA DESIGN BRIEF — MAP 2

EXISTING LAND USE CLASSIFICATION

LEGEND

AR	Agricultural (Future Residential) District
DC	Direct Control District
RC	Country Residential District
A	Agricultural & Parkway District
RR-1	Restricted Single-Detached Residential District
C-Hwy-1	Highway Motel District

MARCH 1978

THE CITY OF CALGARY PLANNING & BUILDING DEPARTMENT

0 1/2 1 mile

3.3 WATER

This area could be serviced by a main running through the ridge to the west of the Edworthy Draw from the Bearspaw feedermain. This main, which will serve the existing Glendale Pressure Zone, is proposed to be installed in 1976-1977. Water will be provided to Strathcona from this main via two pressure zones each of which will require its own facilities, i.e. feedermain, pumping stations, etc.

A portion of the area south of Richmond Road falls within the West Calgary Pressure Zone and can be serviced by extending facilities existing east of Sarcee Trail. Again, the installation of these facilities is dependent upon budgetary approval from City Council.

The Water Pressure Zone servicing boundaries are as follows:

	PRESSURE ZONE	ELEVATION BOUNDARIES
1.	West Calgary	3570-3670
2.	Glendale	3670-3800
3.	Strathcona	3800-3930
4.	Broadcast Hill	3930-4060

The estimated cost of capital water facilities required for servicing the entire Strathcona Design Brief area within the present city limit is as follows:

1.	Feedermains	$2,610,000.00
2.	Pump Stations	$1,350,000.00
3.	Reservoirs	$1,500,000.00
		$5,460,000.00

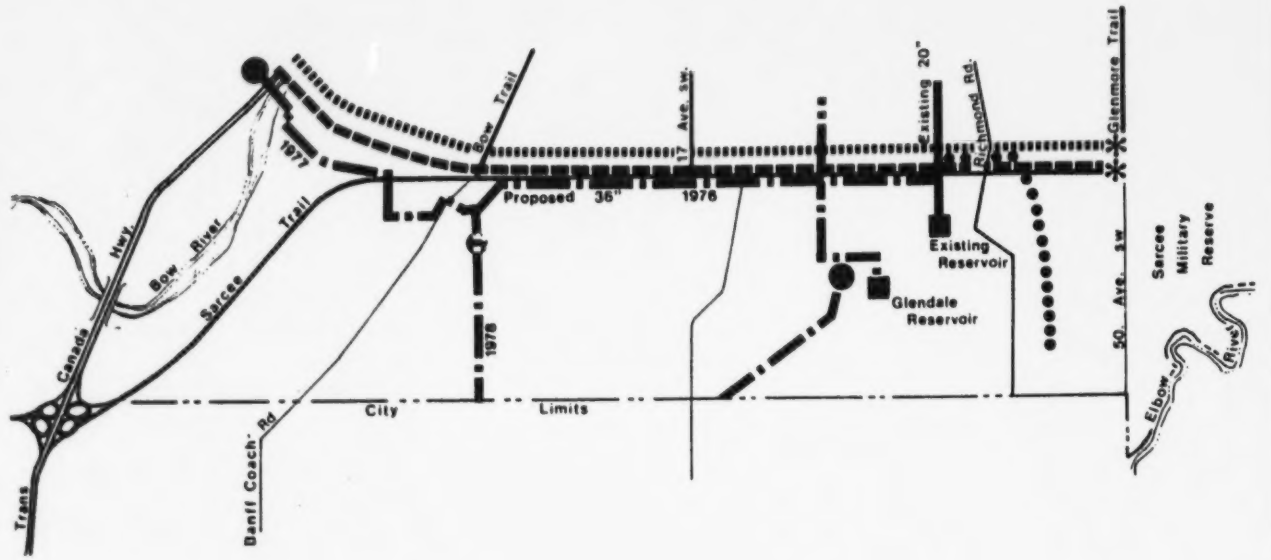
3.4 OTHER UTILITIES

Telephone, gas, power and other utilities can be made available for development in this area from the existing distribution system.
At the present time, there is a 10 inch high pressure gas main located along the western edge of Sarcee Trail within the right-of-way. There are two gas regulator stations on this line. There are two electric substations located within the area, one on the southwest corner of Bow Trail and Sarcee Trail, and the other just west of Sarcee Trail, north of the 50th Avenue right-of-way. In addition, there area two major overhead power lines paralleling Sarcee Trail, one on either side of it; a line running due west from Sarcee Trail, along the Centre Avenue right-of-way; and a number of lesser voltage transmission lines traverse the area. The power and gas line substations and regulator stations many all be effected by the relocation of Sarcee Trail, depending on which alignment is selected.

Existing Land Use

The majority of land in Strathcona is used for agricultural and associated uses such as tree nurseries and the grazing of horses. Several sections, north of Bow Trail and around 17th Avenue, have been subdivided and are used as country residential properties.

Other uses located within this area include a Television Studio and Transmitter located just north of the Bow Trail on Broadcast Hill and a gravel workings and large electric substation located at the junction of Sarcee Trail and the extension of 50th Avenue. There is also an electric substation, a gas regulator station and a small ceramics plant at the junction of Bow Trail and Sarcee Trail. The Valleyview Presbyterian Church is located at the intersection of 17th Avenue and 69th Street. A private club is located on the 17th Avenue Service Road and there is a water reservoir to the south of it. In addition, there is some community reserve land in the area as a result of previous subdivisions.



STRATHCONA DESIGN BRIEF — MAP 10

WATER AND POWER

LEGEND

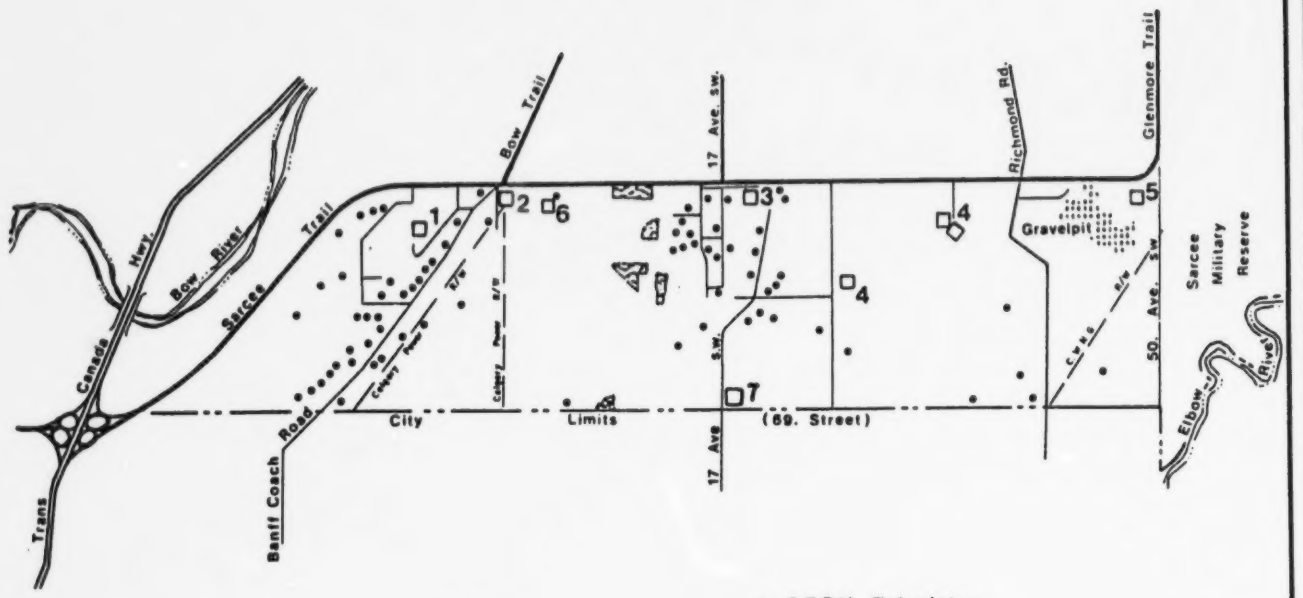
- Proposed Watermain
- Proposed Pumping Station
- City of Calgary Electric System
- Calgary Power
- Tower Line Substation
- Possible Watermain

Timing – City Capital Works Budget

MARCH 1978

THE CITY OF CALGARY PLANNING & BUILDING DEPARTMENT

0 1/2 1 mile



1 CFCN Television
2 Electric Sub Station & Gas Regulator Station
3 R.C.A.F.A. Club
4 City Water Reservoir
5 Calgary Power Sub Station
6 Ceramics Plant
7 Church

STRATHCONA DESIGN BRIEF — MAP 3

EXISTING LAND USE

LEGEND

- Residences
- Other Uses
- Community Reserve

MARCH 1978

THE CITY OF CALGARY PLANNING & BUILDING DEPARTMENT

0 1/4 1/2 1 mi.

Existing Land Ownership

The majority of the land is held in parcels over 20 acres; however, there is a concentration of 3-5 acre parcels north of Bow Trail and around 17th Avenue, west of Sarcee Trail.

Most of the large land holdings are either owned or caveated by development companies while the majority of the small parcels are still in private ownership and are mainly owned by the occupant of the dwelling.

The two areas of concentrated small ownership are two of the most desirable parts of Strathcona, from the point of view of residential development, in that they have excellent views, good tree cover, as well as good access to the downtown and other parts of the city.

The City of Calgary owns four parcels of land in the area. The two sites between 17th Avenue and Richmond Road are water reservoir sites. One of the two parcels of land near the junction of Bow Trail and Sarcee Trail is an electrical substation, while the other is vacant. The City also owns the gravel workings and proposes to continue operating those for some time in the future.

STRATHCONA DESIGN BRIEF

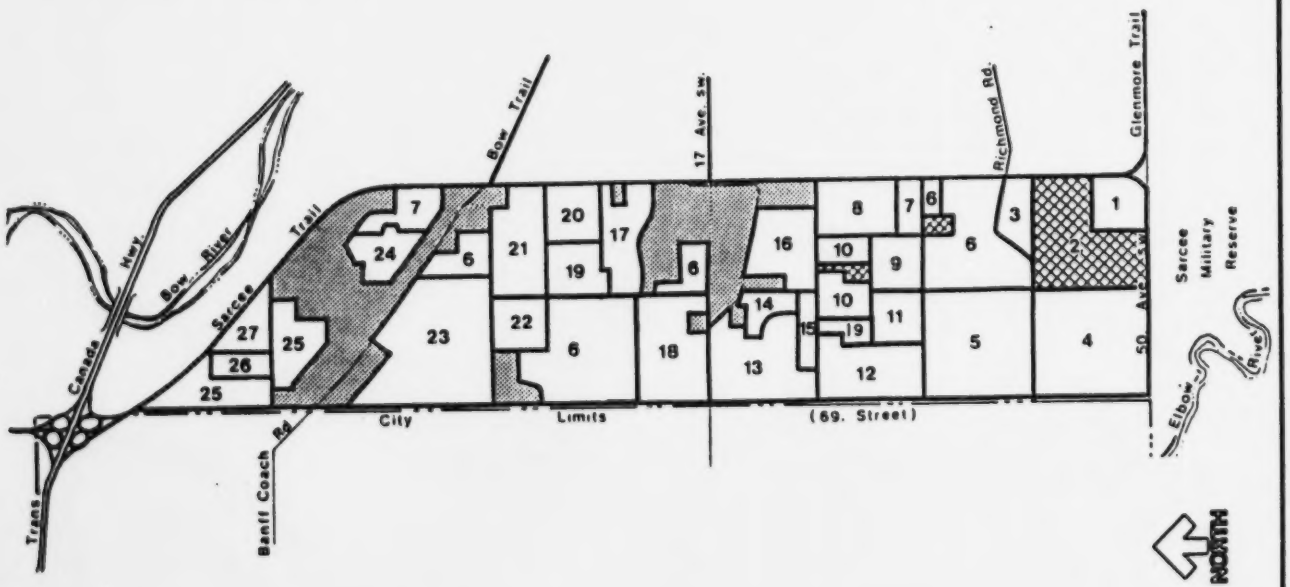
MAP 4

EXISTING LAND OWNERSHIP

Searched December, 1975

1.	Calgary Power	8.	Saskatoon Leaseholds	14.	F. A. Smith (Nu-West)	21.	Nu-West
2.	City of Calgary	9.	Premier Land	15.	F. J. Newburn	22.	Alross Investments
3.	R. McPherson (City of Calgary)	10.	Jager Holdings	16.	Nu-West	23.	MBW Development
4.	R. McPherson (Jager Holdings)	11.	Premier Land	17.	Smith (Nu-West)	24.	CFCN
5.	Knowlton Realty	12.	Tamorel Development Premier Land	18.	Toronto General Trust	25.	G. R. Evans (Abacus Cities)
6.	Nu-West	13.	Nu-West	19.	Abacus Cities	26.	Dennison (Abacus Cities)
7.	United Management			20.	H. Sproule & Montreal Trust	27.	Moore, Illingworth (Abacus Cities)

Names in Brackets Indicate Legal Interest in Property.



LEGEND

- Large Holdings
- Small Ownership
- City Owned Land

MARCH 1978

THE CITY OF CALGARY
PLANNING & BUILDING DEPARTMENT

0 1/4 1/2 1 mi.

1.6 OBJECTIVES OF THE STRATHCONA DESIGN BRIEF

This design brief attempts to achieve the following objectives:

1. To identify areas which are suitable for urban density development and suggest suitable uses for the remaining land.

2. To develop a concept plan which takes into account the existing natural features of the area, provides suitable linkages between them and provides an urban environment which is enhance by and in turn enhances these features.

3. To develop a concept plan showing the location of roads, open space, schools, commercial and other public facilities, taking into account the possibility of future urban development to the west.

4. To provide for the creation of a possible employment centre in the south part of Strathcona.

5. To provide for an acceptable standard of mobility for private vehicles, public transit vehicles, bicyclists and pedestrians to, from and within the area, taking into account the requirements and nature of adjacent areas.

6. To design Strathcona in such a way as to provide for the efficient operation of public transit vehicles so as to encourage their use and to provide for the extension of some form of light rapid transit (or alternative) in the future.

7. To provide, by carrying out all the above objectives, an attractive, well-serviced, economical and convenient environment for the future inhabitants of Strathcona.

8. To minimize the impact of development in Strathcona on the surrounding communities.

2. PHYSICAL SETTING

2.1 TOPOGRAPHY[1]

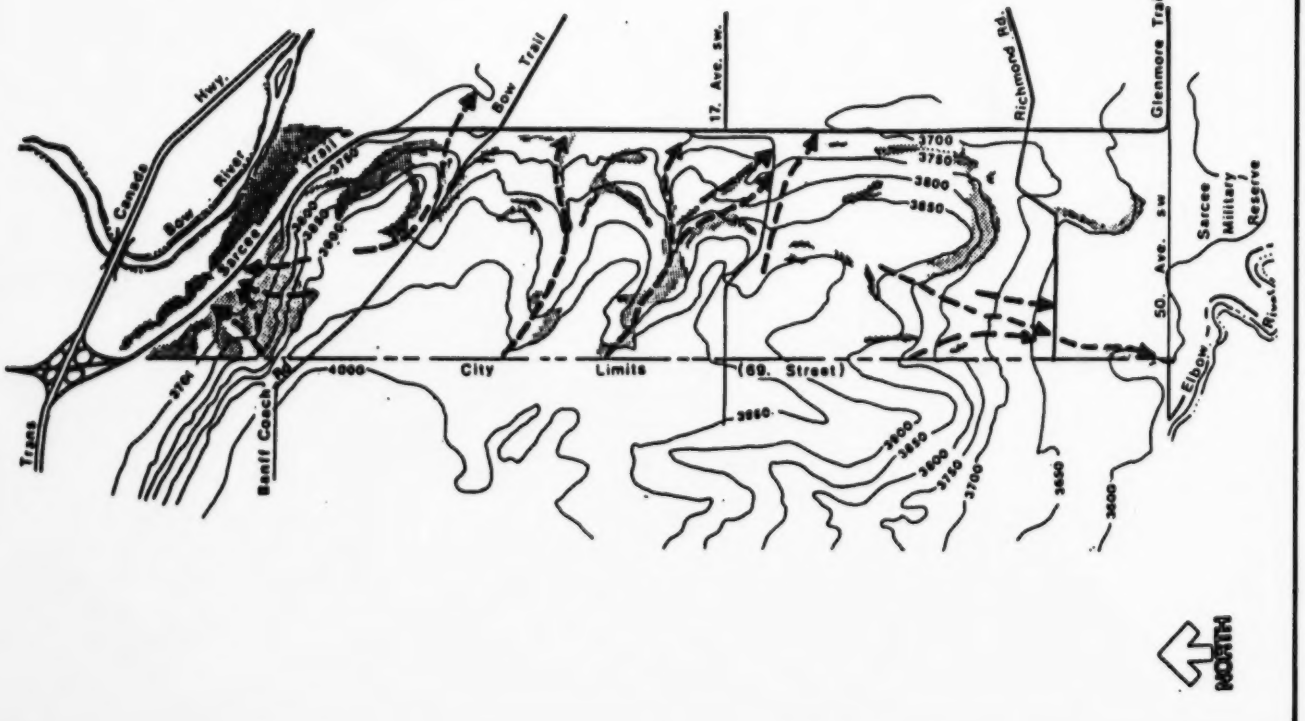
The land elevation within the Design Brief area varies by approximately 400 vertical feet. This elevation difference gives excellent views of the existing City, the Rocky Mountains, and the Elbow and Bow River Valleys. Conversely, the area may be viewed from many existing built-up areas of the city, and consequently, is one of the parameters which must be respected in sensitive handling of development.

The land form is rolling with several gradient changes including steep small coulees which also serve as natural drainage courses.

The drainage system in the sector comprises no permanent streams or large standing water bodies; however, drainage channels facilitate the recharge and natural run-off of rain and snow melt waters.

The plan for the sector will use design controls to protect slope areas as well as designating drainage channels as conservation zones where the effect of development must be minimized.

1. Strathcona Sector Study
   Lombard North Group, 1974.



STRATHCONA DESIGN BRIEF

MAP 5

PHYSICAL FEATURES

LEGEND

- Slopes 15% and Over
- Drainage Course
- Contour Intervals 50 Feet

MARCH 1978

THE CITY OF CALGARY
PLANNING & BUILDING DEPARTMENT

0 1/4 1/2 1 mi.

2.2 VEGETATION AND WILDLIFE[2]

The primary vegetative zones in the sector are native and non-native grasslands. Drier natural prairie slopes are dominated by such species as blue gama grass, june grass and sedges, whereas wetter areas also support rough fescue, stipa and agropyron.

The principal species of tree in the sector, the aspen poplar, is usually located on the wetter north face slopes or in drainage channels; balsam poplar however, also occurs in limited areas in the floodplains of the Bow and Elbow Rivers. Several of the aspen poplar groves are diseased due to wind damage caused in exposed areas. Shrubs include willow, saskatoon berry, silverberry, chokecherry, buckbrush, red osier, dogwood, cinquefoil and prairie rose.

In addition, wind breaks composed of spruce appear in isolated plantings in the sector.

Vegetation is the principal determinant of wildlife abundance and diversity. Areas of disturbed vegetation generally contain fewer species than "natural" areas and the most abundant species in such areas are exotics, i.e. starlings, house sparrows, etc. Areas which have the highest diversity of wildlife are those which contain good vegetation cover, water, and a high degree of interspersion of cover types; that is a wide variety of vegetative growth forms. (The principal types of cover vegetation are indicated on Map 6 as is their wildlife capability in terms of diversity of native species.)

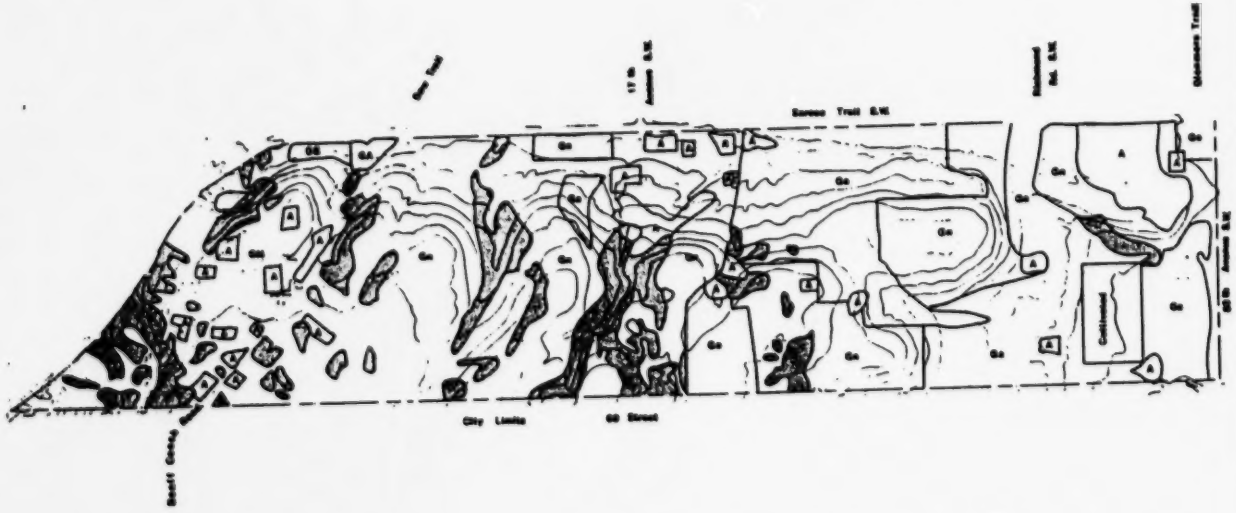
Urban development in the sector will be guided by attaching design controls to use of slope and treed areas while conservation controls will be applied to the drainage channels.

2. Strathcona Sector Study
Lombard North Group, 1974.

STRATHCONA DESIGN BRIEF

MAP 6

VEGETATION AND WILD LIFE



LEGEND

A	Man disturbed, gravel pits, building etc. - low wildlife capability
Ga	Non-native grassland - low wildlife capability
Ga	Native grassland - moderate wildlife capability limited protective cover
W	Willow shrub - high wildlife capability good cover conditions
Ga	Grassland and shrub - high wildlife capability due to cover interspersion
	Aspen groves - high wildlife capability due to protective cover

SOURCE:
Strathcona Sector Study, Lombard North Group, 1974

NORTH

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2.3 SURFICIAL GEOLOGY

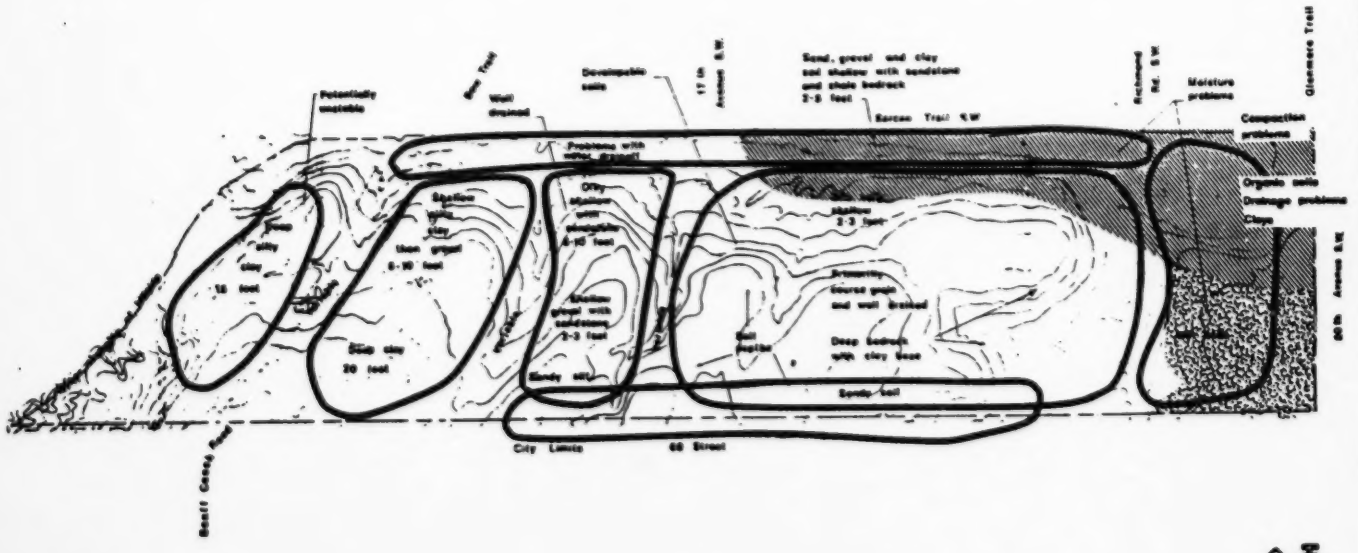
Six broad geologic units have been identified. These are alluvium, till, silt, glaciofluvial outwash, landslide deposits and bedrock. The alluvium is comprised of young gravels and sand deposited in the floodplains of the Bow and Elbow Rivers.

The till (Balzac), which is very sandy with some boulders and silt, usually occurs as a thin cover over exposed stata of Paskapoo sandstones and shales. The fine-grained material (Calgary silt), deposited by Glacial Lake Calgary in the region of the Elbow Valley, contains both clay and silt. Glaciofluvial outwash was deposited by a glacier along the eastern boundary and northwest corner of the study area. These gravels and sands have been used as a source of aggregate.[3]

3. Strathcona Sector Study
Lombard North Group, 1974.

Due to the nature of the land form and soil conditions in Strathcona, the potential exists of land slippage and slumping in the area after development has taken place.

In the northern part of the Strathcona area, slumping of a minor nature has been experienced south of Sarcee Trail at the base of the north slope. The main cause of this occurrence, however, was due to the construction of Sarcee Trail. Areas to the east of Strathcona, which experience similar soil and ground form conditions, have experienced landslides as a result of development. A slide on the north slope in the Wildwood area, west of 37th Street, is evident from the Trans Canada Highway to the north. In Spruce Cliff, east of 37th Street, an active slide is being experienced.



SOURCE:
Strathcona Sector Study, Lombard North Group, 1974

STRATHCONA DESIGN BRIEF

MAP 7

SURFICIAL GEOLOGY

LEGEND

- Balzac Till (very thin in places)
- Calgary Till
- Glaciofluvial outwash

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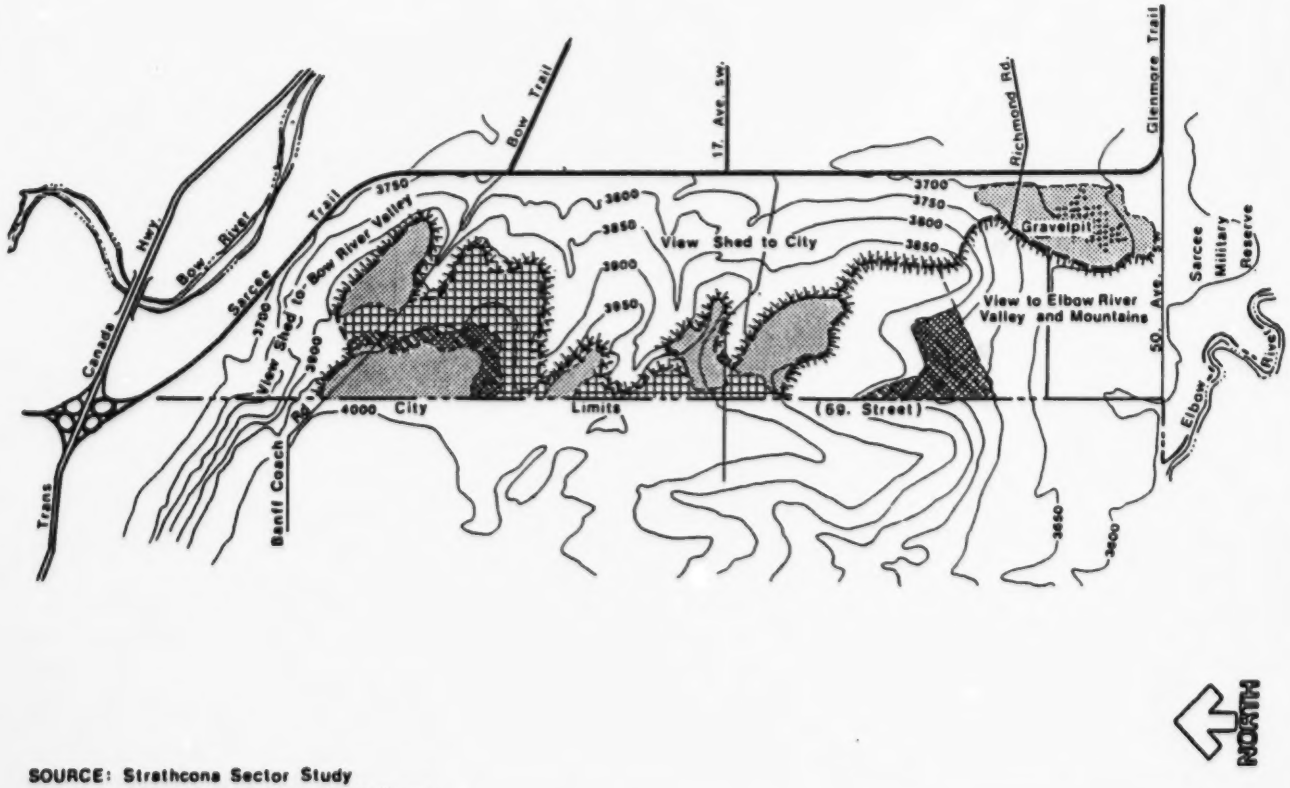
2.4 ASPECT AND VIEW

Map 8 shows the various views to the city, and Elbow River Valley. The limits of these views also indicate the amount of land visible from other parts of the city. As stated previously, sensitive design treatment will be required for these areas.

In addition to the outward regional views from the areas, there are internal views throughout caused by the irregular natural land slopes, including coulees. The views and aspect of these areas must be considered at the subdivision design stage.



SOURCE: Strathcona Sector Study
Prepared by Lombard North Group

Strathcona Design Brief — MAP 8

VIEWS

LEGEND

- Partially Restricted Views To City and Mountains
- Flat Areas with no External Views
- Areas with Views Obstructed
- View Shed to City
- Views to Mountains, Bow and Elbow Rivers

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0 1/4 1/2 1 mi.

4. TRANSPORTATION

Transportation requirements of the Strathcona area will be met in stages by a combination of public transportation and roadway systems. Plans for both modes of transport must recognize long range transportation objectives such as rapid transit and the need to accommodate travel to and from the area west of Strathcona outside the city limits.

4.1 ROADS

Strathcona will be served in an east-west direction by an expressway on Bow Trail; major roadways at 17th Avenue S.W., and Richmond Road; and a future freeway at 50th Avenue S.W. In the north-south direction, the Sarcee Trail Expressway and a major road on 69th Street west will provide service.

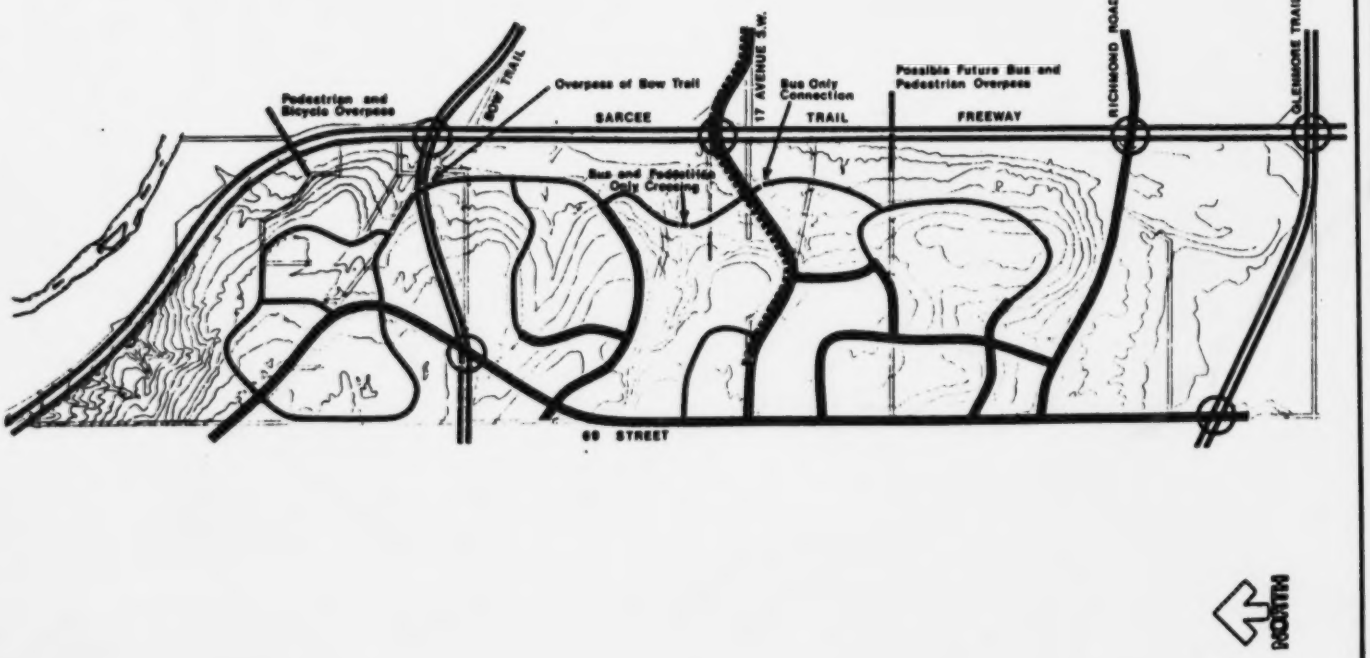
Access to this network will be through a system of local and collector streets plus some major streets as shown on the Proposed Road Plan.

Land acquisition and construction costs for the primary road network within the Strathcona area, i.e. Bow Trail, 17th Avenue, Richmond Road, 50th Avenue and 69th Street, are estimated at $12,500,000.00.

4.2 ROAD IMPROVEMENT STAGING

The actual staging of construction of the road system proposed for Strathcona, and the area to the east of Sarcee Trail, will be determined by the "Transportation Improvement Priority Study" prepared by the City of Calgary Transportation Department. This report, scheduled to be presented to City Council for its approval early in 1976, determines what improvements will be required to the City's transportation network in order that travel desires of Calgary residents be served at an acceptable level of service. It ranks transportation network improvements according to a priority system which, in turn, will be utilized in formulating the City's long range capital budgets.

In terms of the construction of the proposed realigned Banff Coach Road (Bow Trail) in Strathcona, it is noted that this facility will be constructed initially from Sarcee Trail to the point where it intersects with the proposed re-alignment of 69th Street. The extension of this road west of 69th Street will be commenced only when traffic requirements warrant its construction.



STRATHCONA DESIGN BRIEF

MAP 11

PROPOSED ROAD PLAN

LEGEND

- ••••• Possible Future L.R.T. R of W (Inside Median of Major)
- ○ Future Interchange

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0 ½ 1 mile

4.3 TRANSIT

Transit service in the Strathcona area will be provided from Bow Trail, 17th Avenue, Richmond Road, and possibly 26th Avenue, as a "bus only" network link. The principle of a Blue Arrow type service with "park-n-ride" locations, feeders, a north-south local route and protection of a future light rail transit right-of-way is incoporated in the design.

Specifically, Bow Trail and 17th Avenue are designated as primary line-haul routes to the east of Sarcee Trail with "park-n-ride" locations in Strathcona as indicated on Map 11. A third "park-n-ride" site is anticipated south of the proposed Richmond Road alignment. Its exact location will be determined as part of the future study of this area.

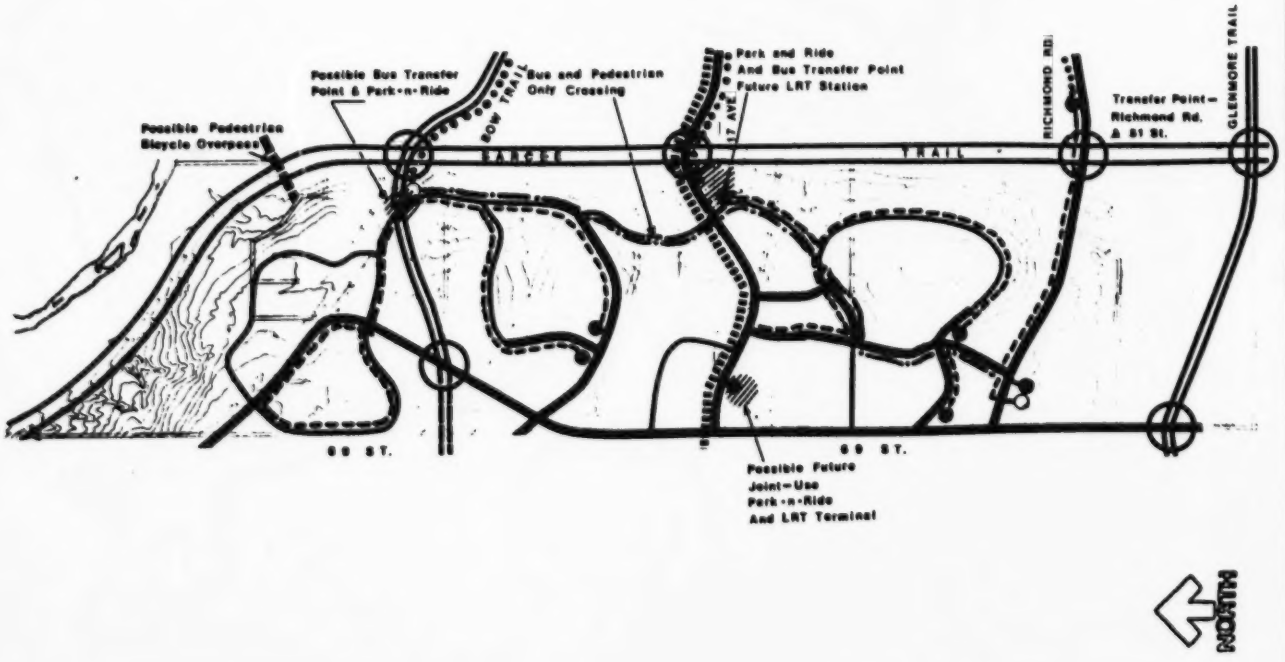
A bus crossing, in conjunction with a pedestrian and bicycle crossing, may be utilized on 26th Avenue across Sarcee Trail. Protection of the right-of-way to make this possible is advocated.

The proposed system of transit routing is designed to encourage the use of transit by minimizing travel distance for transit vehicles in the east/west direction and by locating residential density nodes in proximity to the transit routes and terminals. Also, the "park-n-ride" areas are located central to the population, and direct service to the downtown is proposed.

Special design of the future interchange at Sarcee-Bow Trail, may be required to facilitate on-off ramps for transit only. No entry-exit on Bow Trail would be allowed between Sarcee Trail and the re-alignment of 60th Street. The "park-n-ride" proposed on Bow Trail immediately west of Sarcee Trail is envisaged as including a bus transfer location between feeder bus routes and main line service as a possible bus entry-exit to Bow Trail from the area north and south.

Proposed transit servicing extensions will require new routes on Bow Trail and 17th Avenue, and a feeder service from the south Strathcona area to the 51st Street and Richmond Road turn-around. In essence, Bow Trail and 17th Avenue, east of Sarcee Trail, will receive improved transit service as a result of Strathcona development.

The transit "park-n-ride" areas are estimated to require approximately 10 acres on 17th Avenue immediately west of Sarcee Trail, 5 acres on 17th Avenue east of 69th Street, in conjunction with the proposed Regional Centre, and about 7 acres for interchange land requirements on Bow Trail. Specifically, the area in question on Bow Trail will require future design to incorporate parking, transfer capabilities and ramps for transit vehicles.



STRATHCONA DESIGN BRIEF

MAP 12

RECOMMENDED TENTATIVE TRANSIT ROUTES

LEGEND

- Feeder Route
- Blue Arrow
- North-South Route
- Possible Future Bus Transfer Point
- Bus Turn-A-Round
- Possible Future L.R.T. R of W (inside median of major)

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0 ½ 1 mile

PART 2 - THE PLAN

5. LAND USE

5.1 POPULATION AND DENSITY

The Strathcona area, when completely developed, is projected to contain a maximum population of 50,000 people at an average overall density of 22 persons per gross acre.[4]

This total population figure includes a population of approximately 42,000 people which is envisaged by this Design Brief to be located in the area developed residentially north of the proposed Richmond Road alignment. In addition, in the area south of Richmond Road designated "Subject to Further Study", a possible population of up to 7,000 people may be accommodated in this sector.

For purposes of calculating the total population, the figure of 22 p.p.a. was multiplied by the gross area that will be developed for residential purposes. This area includes the actual residential development areas plus joint-use sites, commercial areas, roadways and all other areas related to the residential development. Excluded are all roadway rights-of-way above a major street classification, interchanges, existing City public utility sites (e.g. electric substations) and the possible employment centres which may be located in Strathcona (including the existing CFCN T.V. Station).

The population calculations for the area have been based upon the assumption that Sarcee Trail may be located entirely west of the existing right-of-way.

In any event, the maximum population for the Strathcona area shall be limited to approximately 50,000 people for residential purposes. If the proposed development of the area south of Richmond Road causes this upper limit to be exceeded, the area shall be restricted to such non-residential development as an employment centre in conformity with the Strathcona Policy Report.

In addition, upon the installation of a light rapid transit (L.R.T.) system or equivalent, the Regional Centre may be further developed residentially, the additional population to be determined when the precise nature of the upgraded transit sytem is determined. The tentative upper limit of this additional population will be determined at the Outline Plan stage.

5.2 FUTURE OF THE EXISTING DEVELOPMENT

The existing communities of Strathcona Heights and Patterson Heights shall become an integral part of the new larger community proposed to surround them. Development within these areas shall be guided by either a replot or a development scheme, whichever is deemed most appropriate at the time of development.

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4. The overall density proposed for the existing areas is 22 persons per gross acre.

As soon as water and sewer and other facilities are installed to these areas, the existing development will be able to hook up to these as necessary. The cost to each existing landowner for servicing will be determined by the appropriate City by-law and established City policies.

5.3 NEW RESIDENTIAL DEVELOPMENTS

A combination of single family housing and low to medium density multiple family accommodation will predominate in the Strathcona sector. Through the use of a variety in design and density adapted to the construction and aesthetic constraints of slope areas, an average density of 22 persons per gross acre will be attained.

To minimize grading requirements and the impact on the natural drainage, vegetation topography, and environment, attempts must be made to use design features such as zero sideyards, laneless subdivisions and cluster housing.

Multiple family units will provide a significant portion of the housing stock in the sector. This accommodation should be located primarily where slope-adaptive housing is a necessity and near joint-use sites, major roadways, commercial and transit nodes. The majority of this form of housing will be located on slopirg areas in excess of 7% and will be designed so as to minimize its impact on these areas.

An additional objective to be satisfied by the placement of this medium density housing shall be to encourage the residents of these areas to use public transit. This can be achieved by making public transit more accessible and convenient to them by locating this accommodation along major transit routes and in proximity to transit terminal and collection points.

All new residential development within the Strathcona area must acknowledge the intent of the following guidelines:

1. The City requirement of an overall average population density of 22 persons per gross acre must be attained.

2. The existing settlement whose inhabitants desire to become an integral part of the new larger community.

It is also recommended that:

3. Because of the sensitive nature of this area because of view exposure and land form, all development must adhere to the guidelines set out in the development constraints section of this report.

4. The single family development areas shall be designed as cellular developments off the major and collector roadway networks.

5. The concept of "planned unit development" should be generously utilized along the escarpment slope to provide an efficient pattern of buildings with desired densities and the maximum open space. Under a planned unit development, a developer has the option of building an assortment of single family units, duplexes and townhouses in clusters or building groupings, while maintaining the desired density of the area constant, which, consequently, should result in substantial savings in streets and utilities runs and in the provision of increased open spaces in the developed area. Consideration should be given to the provision of public and social housing projects in this area.

   Planned unit developments are particularly suitable for the sloping areas of Strathcona which are sensitive to view from outside or within Strathcona.

6. All development on land that is in excess of 7% slope or in locations close to natural open space features, shall be designated D.C. Direct Control with appropriate residential development guidelines (e.g. R-1, R-2 or R-3) under the Land Use Classification Guide implementing this Design Brief. These areas are shown on the Land Use Plan as Direct Control Residential Development. Other areas will be classified R-1, R-2, or R-3, etc. as appropriate in accordance with Council's normal procedures.

7. To retain the visual character of slope areas, residential development should not utilize more than 50% of the site area for actual building development.

8. Developments along the escarpment and slope areas should follow the natural contours and incorporate this feature in their design.

9. Wherever possible, the development on the sloping areas should have their common green spaces oriented towards prevailing views of the Downtown, the Rockies, or the Bow or Elbow Rivers and their valleys. Parking areas and other uses accessory to the residential development should be placed in such a fashion to minimize their visual presence from views both within the Sector and to the area from adjacent communities.

10. Development in the Direct Control areas should be encouraged to use natural building materials as part of their overall design. The exterior colour of development within these areas shall have to relate to natural earth tones and building height should relate to land form and not generally exceed 35 feet to respect the local landscape.

    In certain locations in Strathcona, it may be possible to exceed the 35 foot height limitation in order to provide visual interest and to provide a variety of different housing types. The location of such clusters and the actual height of all

buildings within Strathcona will be determined at the Concept Plan and Land Use Classification stages.

11. A comprehensive open space system is fundamental to the layout of the entire Strathcona area, and, therefore, the main linkages in this system should be designated before any residential subdivision is finalized.

12. To encourage the use of public transit facilities, residential density nodes shall be located in proximity to the area's major transit routes, transit terminals, and public transit collection points.

13. In order to lessen the impact of roadways on the sensitive hillside areas of Strathcona, every effort should be made to reach conclusions from the current studies being undertaken by the City Administration and introduce any modified classifications and standards into this exposed area.

14. New subdivision plans must show all existing treed areas and those marked for preservation. All natural features identified for preservation, such as rock outcrops, should be retained and ample open space left around them to provide for their easy indentification and enjoyment.

15. A high density residential node has been proposed for the 17th Avenue transit terminal location. The development of this area is contingent upon the implementation of the light rapid transit (L.R.T.) system (or an alternative) proposed for the 17th Avenue corridor. Initial development of this area shall be restricted to 35 persons per acre until such time as a light rail transit scheme (or alternative) has been adopted by City Council for Western Calgary to serve the Strathcona area.

16. All utilities in residential areas, with the exception of 13 kV, and above primary electrical feeders, shall be underground.

17. The lands located at the northwest corner of 17th Avenue and 64th Street S.W. are proposed for residential development at 45 u.p.a. However, this may be subject to review as a result of future studies in relation to increased residential densities and possible mixed-use activities at this location.

18. Adequate provision be made for off-street parking for all residential development in Strathcona.

5.4 OPEN SPACE AND JOINT-USE SITES

Open space and joint-use sites in Strathcona will include the normal 10% reserve dedication, plus the dedication of major natural features which are considered undevelopable by Calgary Planning Commission where such are contained within areas of land that are subdivided. In the case of a parcel of land which contains such a feature, the area of this feature shall be subtracted from the total site area before the 10% reserve is calculated.

However, should the option of density transfer be taken for these undevelopable lands, then they shall be included in the gross area from which reserves are calculated.

Facilities in the open system will include joint-use sites utilizing the flatter lands that will be developed for sports and educational activities. Major topographic features, in addition, will provide view and treed areas connected by a pedestrian and cycle system oriented to slope areas.

In the residential areas outside the open system proper, will be a series of tot-lots and many playground facilities for small children.

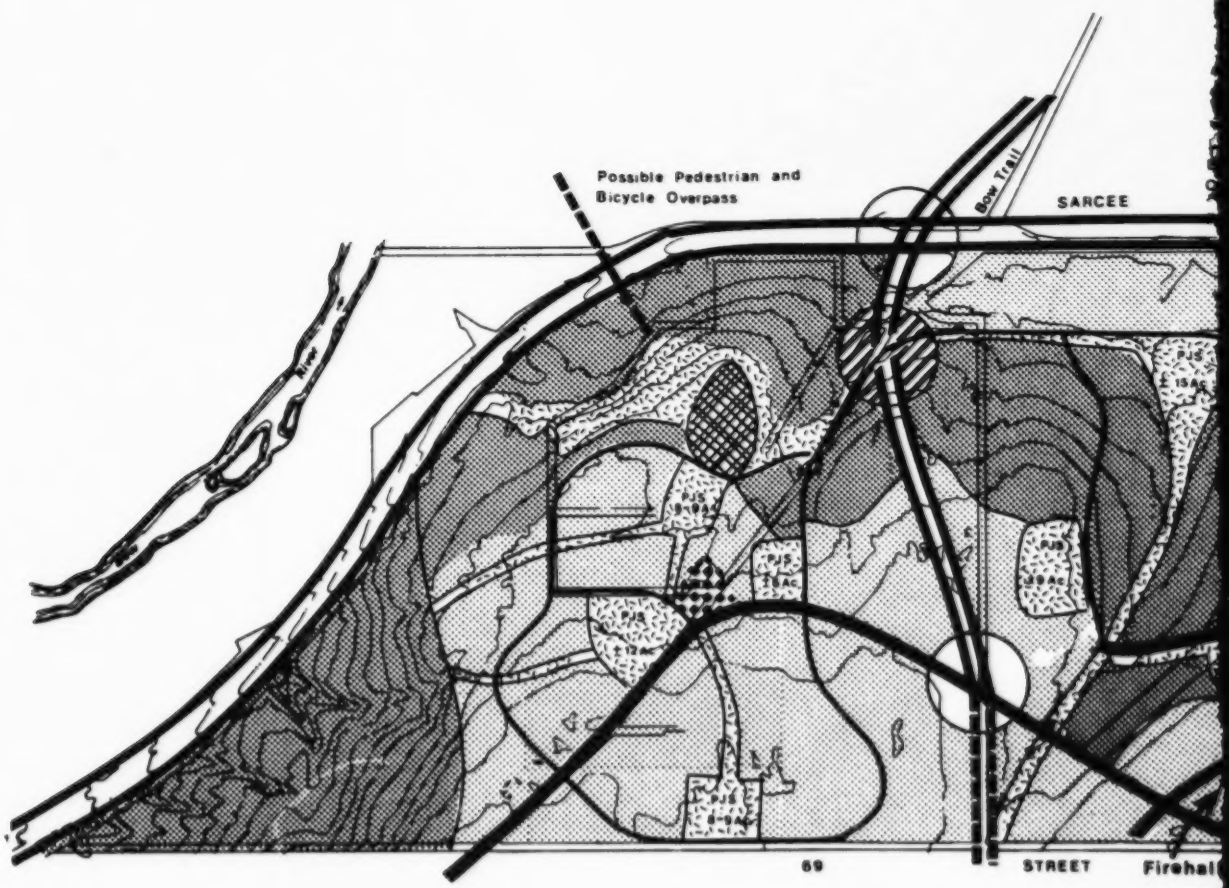
The open space system shall include the following main features:

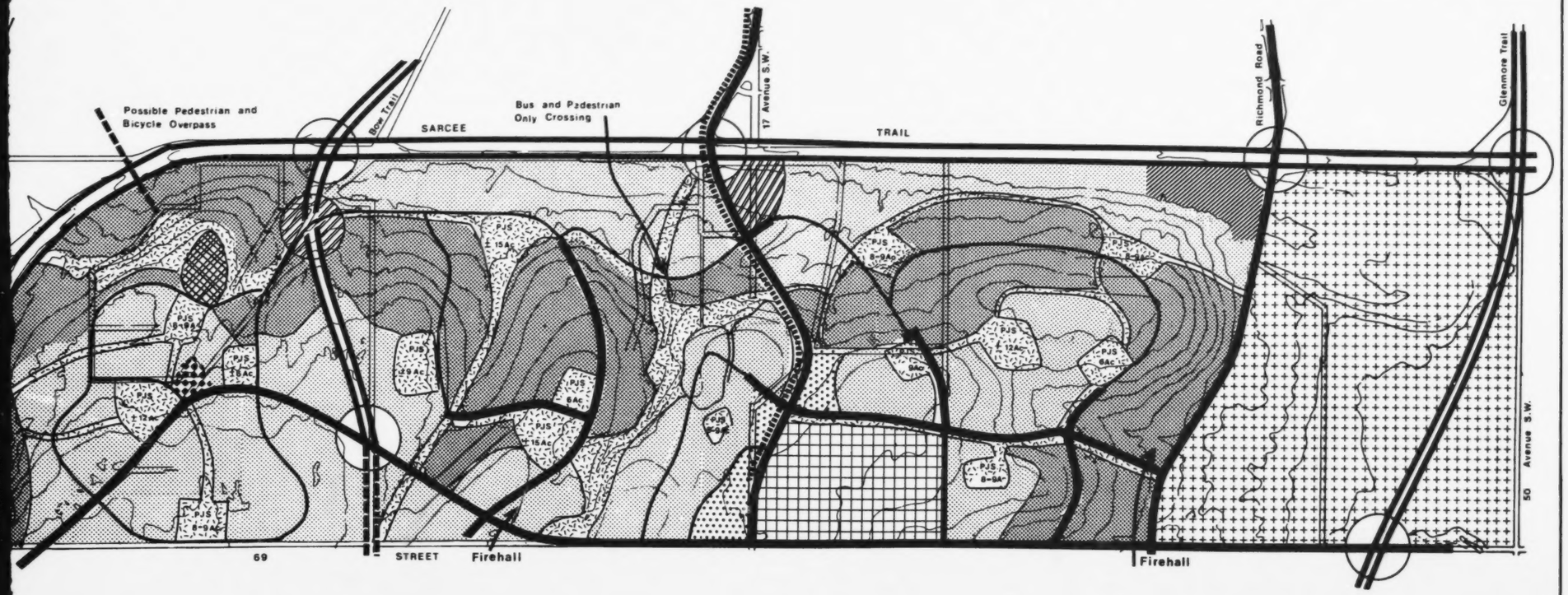
1. All outline plans must illustrate existing and proposed major grading contours by type as well as the major existing and final topographic features such as high points, view areas, sloping land, water courses and treed areas.

2. Existing tree stands in a healthy condition must be preserved and integrated as much as possible in the open space system.

3. The major drainage draws, as indicated on the development constraints map, shall be preserved in their natural condition as much as possible. The major ravine area located to the north of 17th Avenue shall be designated a conservation area and urban development and construction will be limited to necessary transportation facilities.

   Where it is necessary to install utilities in a conservation area, or in the bottom of a draw or ravine, rehabilitation of the disrupted area shall be required to relandscape this area in accordance with a plan agreed to by the City Department of Parks and Recreation. In this connection, the City Engineering Department, in conjunction with the Department of Parks and Recreation, shall investgate the possibilities of creating footpaths in the areas disturbed by utility installation to provide for the active enjoyment of these natural areas by the citizens of Calgary.


Possible Pedestrian and
Bicycle Overpass
Bow Trail
SARCEE
69
STREET


Possible Pedestrian and Bicycle Overpass
Bow Trail
SARCEE
TRAIL
Bus and Pedestrian Only Crossing
17 Avenue S.W.
Richmond Road
Glenmore Trail
50 Avenue S.W.
69
STREET
Firehall
Firehall
PJS ± 15 Ac
PJS 8-9 Ac
PJS ± 12 Ac
PJS ± 9 Ac
PJS 8 Ac
PJS ± 15 Ac
PJS 8-9 Ac
PJS ± 12 Ac
PJS 8 Ac
PJS 8-9 Ac
PJS 8-9 Ac
PJS 8-9 Ac
PJS 8 Ac
PJS ± 12 Ac
PJS 8 Ac
PJS 8-9 Ac
PJS 8-9 Ac
PJS 8-9

4. There is a requirement in the Strathcona Design Brief area for a site of at least 8 acres for a community-owned and operated recreational facility. The site should be located in close proximity to a joint-use site and major transportation facilities. A location in the vicinity of 17th Avenue and 69th Street appears to be appropriate. However, a final location shall be determined as part of the outline planning process.

5. Neighbourhood parks, including tot-lots, should be provided within reasonable walking distance of all dwelling units either in conjunction with or separate from the school sites. It is estimated that approximately twenty tot-lots of 0.5 acres each will be required throughout the residential areas of Strathcona.

6. The top of major escarpments that shall be designated for preservation shall be determined at the Concept Plan stage of approval. It is the intent of the Design Brief to have a strip of land along the top of escarpments and the crests of major slope areas developed as green spaces at a width to be determined by the Concept Plan design to provide a framework for development further down the hill and to form linkages in the open space system for pedestrian and bicycle ways.

   It is envisaged that the majority of these green spaces and open space linkages will remain in private ownership forming open space areas in private developments. Where a pedestrian or bicycle system is required to traverse such an area, they will do so via a public access easement on the private property. The minimum width of such linkages will be 30 to 40 feet. Where it is not possible to have these open space linkages on private property, they will be taken out of the normal 10% reserve dedication.

7. A comprehensive bicycle and foot path network should be designed to link together the main reserve parcels, neighbourhood parks, tot-lots and the Bow and Elbow River Valleys, as proposed in the Calgary General Plan. This network should also join major activity nodes within the community. Portions of this bicycle footpath network should be secured in conjunction with the internal road systems as part of the 30% road requirement. The remainder should be located within the main open space links. The development cost of this system should be borne by the developer.

8. Discussion with officials of the Public and Separate School Boards and the City Parks Department have indicated the need for a total of 167-174 acres for joint-use sites in Strathcona. The approximate locations of these sites are shown on the Land Use Plan. Exact school locations and configurations shall be determined at the Concept Plan stage. All sites should be an integral part of the comprehensive open space system.

9. Public School Board officials have indicated that no commitment can be made at this time to construct schools for this area. Busing of students to adjacent communities will likely be necessary for an undetermined period.

   Therefore, in this Design Brief, reserve has been shown located so that joint-use sites can be adequately accommodated within its boundaries.

   No specific allocation of uses for the proposed joint-use sites have been made in the Design Brief. It is recommended that the Administrative Committee for the joint-use of facilities prepare an activity-oriented education/recreation master plan for the design brief area to meet the needs of the new community.

10. The acreage necessary for tot-lots, major corridor linkage space and community association lease sites should be calculated and subtracted from the total dedicated 10% reserve when joint-use sites are determined. Should additional acreage then be required to bring the recreational open space for community sports activities up to anticipated requirements, it will be purchased by the City under a land purchase agreement and such land shall be dedicated as reserve. The appropriate education authorities will be responsible for the purchase of any further deficiencies required for school purposes.

11. Four Community Association lease sites of approximately three acres each will be required in Strathcona. The Community Association sites, as shown on "The Plan" shall be located in conjunction with Joint-Use Sites at:

    - o A possible joint-use site south of Richmond Road should this area be developed as residential;
    - o A possible 12-15 acre joint-use site between Richmond Road and 17th Avenue south of the proposed Collector Roadway;
    - o The possible joint-use site north of the major east-west ravine north of 17th Avenue;
    - o The possible joint-use site at the intersection of the Banff Coach Road and the new 69th/62nd Street major roadway.

12. To provide for continuity in the Strathcona open space system, several pedestrian crossings of major roadways will be required. These pedestrian and bicycle linkages shall include the following:

    - o A crossing of the Sarcee Trail shall be considered north of the Bow Trail/Sarcee Trail intersection at approximately where Sarcee Trail begins to turn in a northwest direction thus connecting the north end of the Strathcona open space system and Edworthy Park. The exact location and type of crossing shall only be determined when the location of Sarcee Trail is approved and the outcome of the North West Road Study resolved;

- A crossing of the Conservation and ravine areas north of 17th Avenue in conjunction with the roadway crossing;

- An overpass across Sarcee Trail in conjunction with the proposed 17th Avenue Interchange to provide a connection with the Westgate area;

- An overpass of Sarcee Trail in the vicinity of 26th Avenue S.W. possibly in conjunction with a "Bus Only" overpass connecting Strathcona with the Optimist's Athletic Complex to the east.

5.5 COMMERCIAL DEVELOPMENT

Commercial land use proposed for the Strathcona area will include a regional centre, an Auto Sales and Related Services Campus of approximately 30 acres and a small neighbourhood commercial site of approximately 3-5 acres. The sites for these three developments are shown on the Land Use Plan. It is anticipated that the regional centre will be approximately 80 acres in size. This centre will include facilities for a decentralized City Services area and a multiple family development and will also incorporate office employment.

The land use classification of all commercial sites will be D.C. Direct Control with appropriate commercial guidelines to control design and landscape buffering.

5.6 PUBLIC SERVICES

In the early stages of the development of Strathcona, public services will be provided to the area from offices already existing in the area to the east of Sarcee Trail.

These services will be provided from the following locations:

Parks & Recreation, South West Area Office
2679 - 32nd Avenue S.W.

Library - Shaganappi Branch
8th Avenue and 33rd Street S.W.

Health - Shaganappi Health Clinic
8th Avenue and 33rd Street S.W.

Social Services - Shaganappi Centre
8th Avenue and 33rd Street S.W.

Police - Zone Office
Richmond Road and 29th Street S.W.

Fire - Fire Station No. 8
29th Street and 21st Avenue S.W.

In the long term, as the Strathcona area develops, all of these services would like to be able to locate offices in the Strathcona area. The best location for all these services, except the Fire Department, would be one central site where all the services could be located in accordance with the concept of the report "Decentralization of City Services" which was recently adopted by City Council. A suitable location for such a centre would be on 17th Avenue, probably associated with the Regional Centre and accordingly, approximately

3 acres of land have been set aside for this purpose. Two separate sites, each composing approximately 1 acre, shall be provided for the establishment of fire stations in the Strathcona area as indicated on the development plan.

5.7 AREA SUBJECT TO FURTHER STUDIES

Strathcona contains one area which is recommended for further study.

The subject area is in the south part of the Strathcona sector, south of the proposed Richmond Road alignment. The land uses contemplated for this area include an employment centre,[5] and residential development planned at a density of 22 people per gross acre. It is recommended that Council defer approvals pending the outcome of a further sanitary servicing report and the South West Road Study and Sarcee Trail South Study which have direct implications on the overall land use pattern for this area. This area will be serviced by a proposed sanitary trunk following the 50th Avenue alignment. This facility will not be built for several years and it may be necessary to investigate the possiblities of pumping the effluent from the area into the Sarcee trunk (53rd Avenue trunk) to the north. The South West Road Study and the Sarcee Trail South Study have not been resolved for this area of Strathcona and there are several possibilities related to the location of the 50th Avenue/Sarcee Trail interchanges, the Richmond Road interchange and the actual alignment of Sarcee Trail. The effect of the Sarcee Military Camp's firing range, located immediately south of Strathcona, also has to be investigated to determine what land uses would be most appropriately located in this area. The determination of these three elements should be resolved before the land use pattern for this part of Strathcona is finalized.

5.8 SUBDIVISION AND DEVELOPMENT APPROVAL

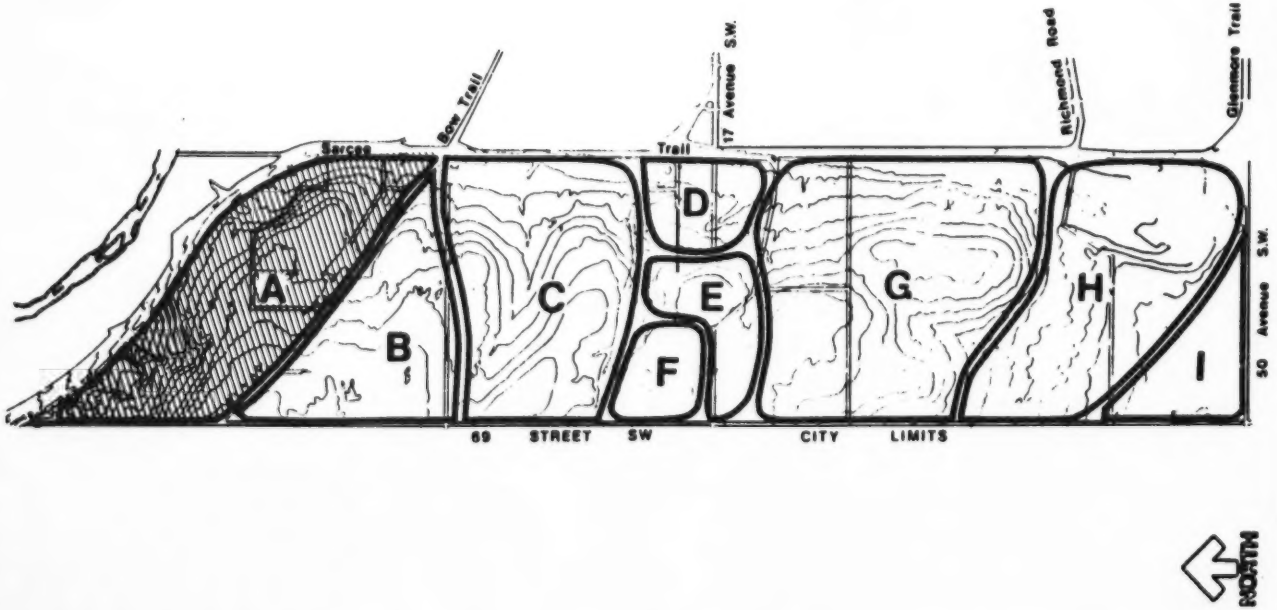
Prior to submitting any outline plans for the area, the developer(s) shall submit, for the approval of the Calgary Planning Commission, a concept plan for the area. These concept plans shall be based on the area indicated on the map entitled "Concept Plan Index" and shall show:

a. With the exception of the Regional Centre area, how the overall density of 22 persons per gross acre will be achieved in the concept plan area;

b. The way in which the different land owners in the area intend to cooperate to achieve the development concept;

c. How the development satisfies the criteria and policies of this Design Brief.

5. The employment centre may include such uses as professional and commercial offices, light manufacturing and non-retail distribution centre, electronics, communications, business machines and computer centre, service organizations, government institutions, and similar and appropriate uses together with ancillary services to provide for the needs of these establishments.



STRATHCONA DESIGN BRIEF

MAP 14

CONCEPT PLAN INDEX MAP

LEGEND

- Concept Plan Area
- Area Subject to Possible Replot or Development Scheme

MARCH 1978

THE CITY OF CALGARY
PLANNING & BUILDING DEPARTMENT

0 1/2 1 mile

The areas marked "A" and "D" on the Concept Plan Index Map may be subject to a possible replot or development scheme, whichever is deemed most appropriate at the time of plan approval. This requirement may be necessary due to the numerous fragmented small ownerships in the area and the difficulty in assembling land for such public purposes as roads, joint-use sites, and utility corridors.

The Concept Plans for Strathcona shall be prepared on the basis that they provide a framework for subdivision and development to proceed without substantially altering the present topographical character and quality of the area. The Concept Plan process will include the preparation of an environmental inventory and its analysis, and the formulation of a development potential and suitability map. This will lead to the preparation of the development concept which relates building mass, heights, etc., to the area upon which the development is proposed. In addition, the areas designated "Direct Control Development" will require the above requirements to be presented in the form of a **three-dimensional study** illustrating the proposed development and how it satisfied the Design Brief's design controls.

6. IMPLEMENTATION

6.1 SENSITIVE AREAS

The development of land use activities incompatible with environmentally sensitive areas such as hillsides (usually with slope in excess of 15%), potentially unstable soils and natural drainage features involves both hazards to public safety and investment and municipal costs required to protect long-term nuisance land uses.[6] The following will briefly outline the essential function performed by various natural features and the planning controls which will be exercised to ensure the ultimate land use structure with respect to the limitations of the natural landscape.

Hillside and Slope Areas

The Strathcona area is characterized by a complex topography which, in addition to flatter plateau areas, contains well defined coulees and slopes in excess of +15%.

Slope areas, due to gravity and general dynamics of stress and movement, are susceptible to erosion, slumps and slides, particularly where the natural balance of vegetation cover and soil moisture are disrupted by development.

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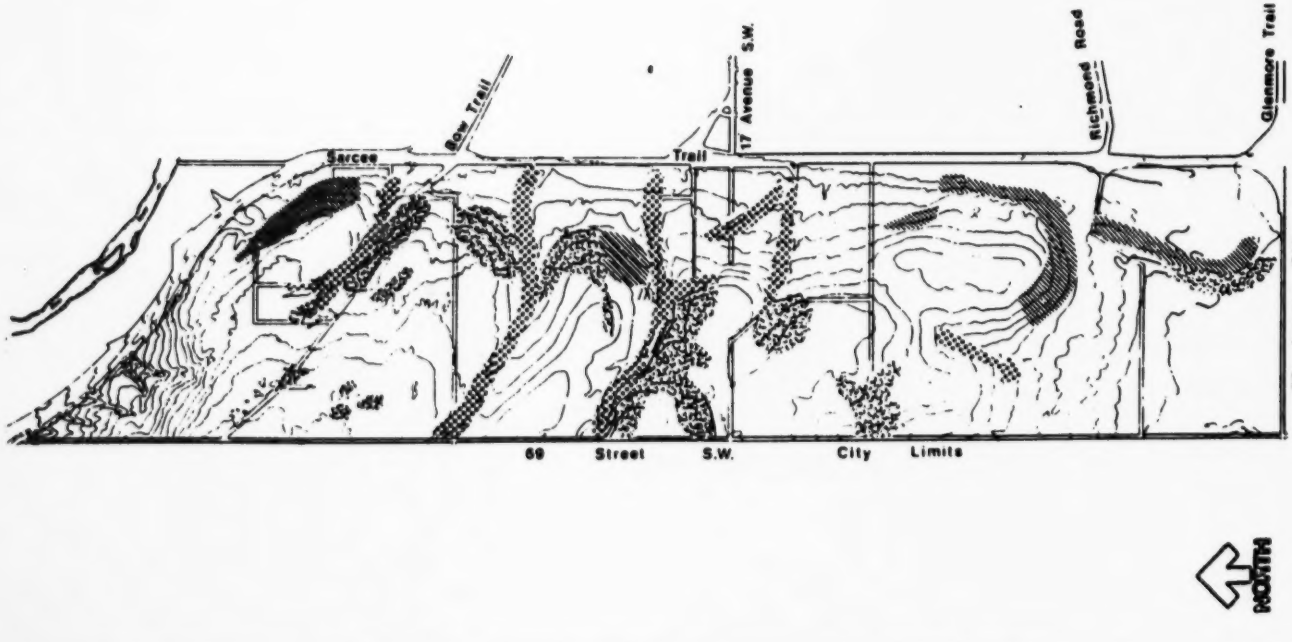
6. Homeowner's Guide to Geologic and Hydrologic Hazards in Calgary - Department of Geology, University of Calgary, 1975.



STRATHCONA DESIGN BRIEF

MAP 15

DEVELOPMENT CONSTRAINTS

LEGEND

- Conservation Area
- Area of Possible Development Viability
- Area Subject to Design Guidelines

MARCH 1978

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0 1/2 1 mile

Slopes with fine-grained clay and till soil with minimal vegetative cover are especially susceptible to erosion and slide and slumps in more aggravated situations. Erosion results in sight desecration of valuable aesthetic features and generally involves costly remedial measures by the municipality to restore and restabilize the slopes. The more dramatic slumps and slides, in addition to municipal costs, usually involves extensive private property damage and cost. In the past, the City incurred considerable expense in stabilizing hillsides throughout Calgary and appropriate measures will need to be taken by the Administration in determining the developability of areas in the Strathcona Design Brief area which are potentially unstable.

Drainage Features

The Strathcona sector is traversed by two main and several smaller drainage draws, which recharge the ground water table and naturally handle excess rainwater run-off. This maintains an essential balance in the hydrology of the sector and, in particular, ensures slope soils are well drained.

Development Control in the area requires:

- all major drainage draws to be retained as conservation zones with a minimum structure setback of 25 feet from the crest of the draw. This setback will remain privately owned and will be established to avoid the visual intrusion of buildings into the ravine areas.
- the natural vegetation will be retained in these zones.
- grading, infill and intrusion by construction practices or equipment will not be permitted in these zones unless this area is re-landscaped in accordance with a plan agreed to by the City Department of Parks and Recreation.
- any damage caused (to the draw, vegetation, or drainage function) during construction will be repaired at the developer's expense.

The preceding section attempts to outline procedures for rationally facilitating the conversion of land to urban uses without seriously influencing the natural structure of the Strathcona area. The planning strategy involves the enhancement of the opportunities offered by the area while avoiding the long-term costly liabilities of land use patterns which are incomplatible with natural landscape.

Soil Conditions

Areas containing fine-grained clay and till soil with poor drainage and strength properties are potentially the most unstable soils in Strathcona. In addition to the definite potential for slides in slope areas, these soils can damage individual building foundations through frost heave and subsidence. Soils in this category are located:

- in the extreme south and east where wet and intermittent organic conditions prevail. Development here requires adequate artificial drainage and the removal of organic material in favour of till for foundations and major structures.

- in the extreme north where no development or disruption will be allowed unless the developer obtains the necessary approvals of a detailed soil analysis and specific outline plan.

Vegetation Cover

The primary vegetative cover in the Strathcona Sector is grassland, with important stands of Aspen and Spruce. In addition to being an important aesthetic resource and wind-break, these tree stands function to control rainwater run-off and soil stabilization on slopes (particularly north-facing slopes). In the conservation zones, the natural vegetation will be retained, while in design control areas, developments will be required to retain all viable tree stands and replace those removed as a result of the development.

6.2 DEVELOPMENT GUIDELINES

Introduction

Development in the Strathcona Sector will be controlled by planning and design guidelines which will apply to hillsides, drainage channels and treed areas. These features have been identified as sensitive areas whose natural function is of integral importance to the development of the Strathcona Sector.

The design and development guidelines for Strathcona will apply to the following areas:

Conservation Zones

Conservation zones are characterized by:

- major topographic features with slopes in excess of +15%.
- potentially unstable fine-grained clay and till soils with drainage problems and frequently have high organic content.
- soils in locations of previous slide and slump activity.
- containing all or a portion of a drainage feature.

Conservation zones contain land visually significant to warrant preservation in its natural state. These zones shall be designated as unsuitable for urban development utilizing the intent of Section 25(3) of the Planning Act.[7] The purpose here is to maximize the capabilities afforded by the natural landscape, while at the same time, reducing the probability of construction in unstable areas or areas of questionable suitability for urban development. Use of these land parcels will be limited to open space and natural areas in a combination with pedestrian walkways and cycle paths.

7. This section states "notwithstanding Subsection 2" (which refers to the normal 10% dedication) "where the land to be subdivided contains swamps, valleys, ravines or natural drainage courses or other land which, in the opinion of the approving authority is unsuitable for building sites or private use, may require that these areas be provided as reserves in addition to the reserves to be provided under Subsection 2 or 4" (which refers to reserves adjacent to water bodies).

Possible Development Potential

Land in this category, although having characteristics similar to conservation zones, is ill-defined in terms of actual soil and ground water conditions. The land parcels may be developed as design control areas once long-term soil and slope stability can be ensured by the developer and approved by the City.

Design Control Area

Design control areas are generally characterized by:

- vegetated areas containing aspen stands and isolated treelines and windbreaks including spruce.
- minor slope areas of approximately 15% slope.
- areas directly abutting drainage features.

Development in design control areas will be dependent on the following conditions:

- detailed soils analysis, indicating development capability, drainage characteristics and engineering properties.
- detailed environmental inventory, analysis and development suitability map to the satisfaction of the City of Calgary Planning Department prior to preparation of development concept, massing and site plans will indicate how slope areas will be integrated into the development, minimizing grading requirements and construction on slopes. In these areas, the emphasis will be placed on creative lot designs utilizing the principles of laneless subdivision and zero sideyard.
- remedial measures to control run-off to the level which preceded development.
- provision of artificial drainage on poorly-drained, fine-grained soils.
- avoidance of potentially unstable slopes.
- no disruption of slope angle by top fill or under cutting.
- maintenance, where possible, of the existing tree cover with its replacement by the developer where trees are removed or die as a result of development.
- control of site coverage by the development through the use of cluster principles and P.U.D. (comprehensive project design).
- where pedestrian walkways and cycle paths will be contained on easements on the site, with development proposals indicating how these features are integrated with the site.

7. COST ESTIMATES

7.1 COST SUMMARY

The following section briefly indicates the costs over and above normal expenditures that will have to be absorbed by the City should the Strathcona area be developed.

7.2 INTERNAL DEVELOPMENT COSTS[8]

	ESTIMATED COSTS
Transportation - Road System Land and Construction	$12,500,000.00[9]
Transit Terminals - 3 sites Land only - fully serviced	$ 1,100,000.00
Major Recreational Site[10] Land only - fully serviced	$ 900,000.00
Public Services - Decentralized Service site and 2 Firehall sites Land only - fully serviced	$ 460,000.00
TOTAL ESTIMATED COST	$14,960,000.00

8. It should be noted that with changing policy in all suburban areas, some of the above internal major costs are in fact becoming common to many new development areas.

9. Cost sharing arrangements with Senior Government may reduce this amount.

10. This figure is based on estimated requirements at the present time, which estimates are very close to the 10% figure allowed. Therefore, at the stage when more detailed planning is implemented, it may be necessary to purchase more land for school and community purposes.

7.3 EXTERNAL DEVELOPMENT COSTS

At the Public Hearing held by City Council on the Design Brief, Council adopted the following motion concerning improvements to roadways external to the Strathcona area:

> "That the City Administration prepare a proposal for presentation to Council re: transportation through downstream communities, that will not require road widening outside of existing rights-of-way or destruction to homes or businesses."